

Symposium OPEN IVR

Text-to-Speech Option Guide

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About this guide

This guide provides information about and instructions for implementing the Release 4.0 Symposium Open IVR Text-to-Speech option.

Who should read this guide

The audience for this guide is anyone responsible for implementing and administering the Open IVR Text-to-Speech option.

It is assumed that readers of this guide have a working knowledge of

- UNIX
- IVR systems
- developing IVR applications
- installing and repairing computer hardware systems and components (replacing boards and components)
- knowledge of windowing environments with DOS/UNIX software

How this guide is organized

This guide is divided in the following manner:

- Chapter 1, “Text-to-speech overview”, provides an introduction to the basics of the text-to-speech technology.
- Chapter 2, “L&H/Antares option”, introduces the text-to-speech functionality available by combining the L&H software with the general-purpose Antares DSP board. It covers the system requirements and installation procedures for both the hardware and the software.

- Chapter 3, “TruVoice Text-to-Speech option”, introduces the speech synthesis algorithms and software from TruVoice Text-to-Speech (again running on the Antares board). It covers the system requirements and installation procedures for the software.
- Appendix A, “Accessing the Service Console Interface”, shows how you can access the Service Console Interface (SCI) from a dumb terminal, a modem via the RS-232-C, or the application processor via the Ethernet.
- Appendix B, “How to reconfigure an option”, shows how to reconfigure the settings for an option.
- Appendix C, “Text-to-Speech card configuration”, shows how to configure the Antares card(s) for both the TruVoice Text-to-Speech and the L&H Options.

Related documents

Additional information about Symposium OPEN IVR 4.0 is presented in the following Release 4.0 documentation

Document	NT number/ A0 number/ P0 number
<i>Symposium OPEN IVR 4.0 Getting Started Guide</i>	NTVE8201 A0732100 P0881271
<i>Symposium OPEN IVR 4.0 Product Guide</i>	NTVE8202 A0732101 P0881273
<i>Symposium OPEN IVR 4.0 System Administration Guide</i>	NTVE8203 A0732102 P0881274
<i>Symposium OPEN IVR 4.0 Application Development Guide</i>	NTVE8209 A0732108 P0881275
<i>Symposium OPEN IVR 4.0 Cell Catalog</i>	NTVE8208 A0732107 P0881276

<i>Symposium OPEN IVR 4.0 Installation, Upgrade, and Maintenance Guide</i>	NTVE8204 A0732103 P0881277
<i>Symposium OPEN IVR Planning and Engineering Guide</i>	NTVE8205 A0732104 P0881278
<i>Symposium OPEN IVR 4.0 Error Messages Guide</i>	NTVE8206 A0732105 P0881279
<i>Symposium OPEN IVR 4.0 Web Option Guide</i>	NTVE8210 A0732109 P0881281
<i>Symposium OPEN IVR 4.0 SQL Server User Guide</i>	NTVE8216 A0732115 P0881282
<i>Symposium OPEN IVR 4.0 Service Console Interface Reference Manual</i>	NTVE8207 A0732106 P0881284
<i>Symposium OPEN IVR 4.0 VT100 Host Connectivity Configuration and Development Guide</i>	NTVE8221 A0732120 P0881286
<i>Symposium OPEN IVR 4.0 Text-to-Speech Option Guide</i>	NTVE8213 A0732112 P0881292
<i>Symposium OPEN IVR 4.0 Speech Recognition Option Guide</i>	NTVE8212 A0732111 P0881293
<i>Symposium OPEN IVR 4.0 Fax Option Guide</i>	NTVE8211 A0732110 P0881294
<i>Symposium OPEN IVR 4.0 CAS and ISDN Signaling Option Guide</i>	NTVE8214 A0732113 P0881296

<i>Symposium OPEN IVR 4.0 Integration Package for Meridian Link User Guide</i>	P0881297 NTVE8215 A0732114
<i>Symposium OPEN IVR 4.0 Prompt Import Utility Guide</i>	NTVE8218 A0732117 P0881400
<i>Symposium OPEN IVR 4.0 SNA Host Communications Guide</i>	NTVE8227 A0732774 P0881750

Conventions used in this guide

Throughout this guide, several typographic conventions have been used to highlight certain types of information:

- Items that appear on the Symposium OPEN IVR screens are identified in quotes, for example:
the “Timeout” part of the parameters window
- Prompts, File and Menu names, Directories, Accounts, and Options are shown in a different typeface, for example:
`/sci>`
`sci/install menu`
`/u/nortel/3270/getbalance.act file`
- Symposium OPEN IVR buffer names are shown in all uppercase characters, for example:
the CURRENT MESSAGE buffer
- Field names are shown in italics, for example:
the *Device* field
- Items you must type are shown in bold in a different typeface, for example:
type **tn5250** at the prompt

- Variables shown in command lines appear in italics, for example:
the `host_cfgn` file, where *n* is a variable representing a board number
- Key names you press are shown in angled brackets, for example:
the <F1> key
- Keyboards usually have keys named <Return> or <Enter> that perform the same function. For convenience, this guide uses the keyname <Enter> to represent both keynames.

Chapter 1: Text-to-speech overview

Text-to-speech (TTS) is the process of converting text—usually in the form of ASCII files—to speech output. It is used in applications where it is inconvenient or impossible to record a human speaker. For example, TTS can be used to “read” a fax or E-mail message to a caller or to retrieve and “read” information from a large, frequently changing database.

Although text-to-speech has been commercially available for over 12 years, few developers could afford to include it in their applications because these tasks once required expensive, specialized hardware that drove up the cost of applications and discouraged widespread use of the technology.

Today, the cost of computer-based telephony hardware has declined significantly and extensive CPU power is readily available, allowing applications to be implemented in a more cost-effective fashion. Furthermore, the availability of industry-standard speech APIs and innovative platforms, such as Dialogic’s open DSP-based Antares platform, make applications much easier to develop. In short, the previous barriers to the deployment of text-to-speech have disappeared, and this powerful technology is poised to explode in numerous markets.

TTS key benefits

Here are some key benefits of using text-to-speech systems:

- easy access to computer-based information
- remote access to E-mail and fax (unified messaging)
- quicker, more cost-effective implementation of IVR applications
- increased customer satisfaction (they quickly get the information they want)

How does a TTS generator convert text to speech?

- 1 **Input the text.** The text, in ASCII format, is read from a memory buffer or a file.
- 2 **Normalize the text.** Special cases are identified and normalized (for example, should St. be spoken as Street or Saint, and should Dr. be spoken as Drive or Doctor).
- 3 **Check the exception dictionary.** Exceptions to common pronunciation rules are identified. This is especially important with proper names.
- 4 **Convert to phonetic spelling.** Using either a rule-based technique or a look-up reference such as Webster's Collegiate Dictionary, or a combination of the two, the TTS generator produces a phonetic spelling for all the words in the phrase to be spoken.
- 5 **Modify the phonetics.** The phonetics are modified so that the spellings will create the precise sounds required. For example, each "t" is pronounced differently in the phrase "test tube".
- 6 **Control the inflection.** The text generator should be able to control the pitch and weight of the voice based on the nature of the spoken phrase (for example, an exclamation requires a different inflection than a question or statement).
- 7 **Generate the voice.** The synthesized voice is generated. This may be done by concatenation of stored elements such as phonemes and diphones, by using algorithms based on parameter-driven rules, or by some combination of these two processes.

The majority of today's networked PCs and workstations are voice-enabled, offering desktop applications that include telephone access. Users are beginning to expect software developers to include text-to-speech technology in their applications, providing a simple means to retrieve textual information over the phone from any remote location.

In addition, technology and application vendors need to be aware of the individual requirements of their target markets. A text-to-speech product (or version of the product) that satisfies the desktop games market is probably not the ideal product for the server-based unified messaging market. Today's text-to-speech product features must now be customized for each market.

Chapter 2: L&H/Antares option

This chapter presents information about the MRS software L&H/Antares TTS option. It is divided into the following sections:

- overview
- system requirements
- installation procedures

L&H/Antares overview

The L&H TTS system is designed to pronounce any text. It understands phonetic spelling, and a human-sounding voice reads the input text directly from a specified text file. The system applies linguistic rules and uses both standard and user-defined dictionaries to ensure that the pronunciation of the text is correct. The L&H system can support up to 24 channels of TTS in six-port increments, and supports both SCbus and PEB-based systems.

Languages

The L&H TTS algorithm currently supports the following languages (note that only one language may be loaded at any given time per card):

- American English (unless otherwise noted, this is the default language installed on your system)
- Dutch
- German
- French
- Italian
- Castilian Spanish

Speech parameters

Using embedded escape sequences, speech output can be customized for different values of a number of speech parameters, including:

- volume (low-high)
- pitch (low-high)
- speech rate (slow-fast)
- speaker type (different voice characteristics)
- input mode (letter-by-letter, word-by-word, sentence-by-sentence, terminator-based)
- read mode (orthographic vs. phonetic input)

The Antares 2000 card

The Antares 2000 is a DSP platform developed for high-density multichannel computer telephony applications. The Antares platform is supported by a complete open development environment designed to quickly integrate call processing technologies into commercial computer telephony systems.

The Antares card may operate in PEB or SCbus mode, subject to technology deployed on the card. SCbus provides an open architecture that enables developers to use products from multiple vendors to build unified client server call processing systems. SCbus (or PEB) connectivity provides access to a wide variety of off-the-shelf call processing products, including internationally approved analog and digital interfaces.

Antares dongles

Antares dongles are small (approximately 1/2 inch) black devices which attach to the Antares cards. Up-to-date dongles are needed on the Antares cards to support each current text-to-speech technology.

ATTENTION

If you have a dongle previously used in OPEN IVR 2.01 or OPEN IVR 2.5, *these will not work in SOIVR 4.0*. Such dongles will have to get replaced by new ones.

Components

The L&H/Antares TTS option update consists of the following software:

- Antares UNIX Development Package (only shipped with Antares-based options)
- L&H TTS Option
- Antares L&H TTS Driver for SCO
- L&H Language (coff files)
- L&H Rules/Description disk

Note: Every shipment of Symposium OPEN IVR 4.0 includes a License file key which specifies the purchased options.

This Guide documents the prerequisites and procedures necessary for installing of the L&H/Antares Text-to-Speech option.

System requirements

Before installing the L&H/Antares TTS option, make sure that your system has the following:

- a SCbus or PEB system configuration

Note: The installation will differ depending on your system's bus environment.

- a license file supporting TTS functionality on an AP, L&H/Antares on an MRS, and both TTS and L&H/Antares on an MRS/AP.

Note: In order to use multiple languages in TTS applications, you need to run MRS software (Release 4.0) on the telephony server and Symposium OPEN IVR AP software (Release 4.0) on the application server.

Installation procedures

This section provides information about installing the MRS software L&H/Antares TTS option.

Note: New systems, if they are to include the text-to-speech option software, have it preloaded at the factory. The software installation procedures discussed in this section are instructions for restoring the software. They are also available for those who may have purchased this option separately after the initial purchase of the base system.

Before proceeding with the installation procedures, ensure that your system meets the requirements described in “System requirements” on page 2-3. In particular, verify that the System Release 4.2 package is installed. If you do not have this software, contact your customer service representative.

The instructions in this chapter identify the differences between installing the L&H/Antares TTS option in both SCbus and PEB environments.

The procedures in the installation

Perform these procedures in the order shown here to complete the installation. (If there is an older version of any software, remove it first).

- 1 Install the Antares card (unless already installed). The dongle for L&H TTS must be installed on the card.
- 2 Load the License File for your MRS system that supports L&H TTS functionality.
- 3 Install the option software.
- 4 Activate the L&H Antares TTS option.
- 5 Restart the system.

Installing an Antares hardware card

This section provides information about installing an Antares hardware card.

Note: Perform this procedure only if you are adding an Antares hardware card to your MRS.

Configuration considerations

Before installing the Antares card(s) in your system, address the following configuration considerations:

- The security key (TTS dongle) must be installed on the Antares card. It contains the licensing information on the number of TTS channels and the language to be used.
- Do not install a PEB terminator on the Antares card unless the Antares card is installed at the end of the bus on a PEB system.
- Set the SW1 switches to specify the I/O address of the card. Refer to Appendix C, “Text-to-Speech card configuration” for information about configuration requirements.

Installation sequence

Perform the following steps to install the Antares card.

Note: Wear an antistatic wriststrap when handling the option cards. Always observe proper precautions when working with the system. Be sure to follow all electrostatic discharge (ESD) guidelines during configuration and installation of the option cards.

- 1 Unpack the Antares card(s) and remove it (them) from the antistatic bag.
- 2 Shut down the MRS system as described in the *Installation, Upgrade, and Maintenance Guide*.
- 3 Once the shutdown process is complete, turn off the power to the system.
- 4 Configure the Antares card(s) as shown on the configuration diagrams in Appendix C, “Text-to-Speech card configuration”. However, if you need to install the Antares card at the end of a PEB bus, terminate the Antares card with a PEB terminator.
- 5 Open the system and find an open slot where you can install the Antares card(s). You can install the Antares card in any open slot in the system, as long as you follow the PEB/SCbus guidelines for connectivity. Remove the bus cable from any cards that will be connected to the Antares card(s).
- 6 Insert the Antares card(s) into the open slot(s) in your system.
- 7 Connect all installed cards together using the existing bus cable that is supplied with the Antares option. You may need to lift some cards from their slots in order to attach the cable.
- 8 Seat and align the cards properly before securing the card with the retaining screws.

- 9 Power up the system and allow it to boot normally. The hardware installation portion of the Antares option is complete.

The license file

The License file is unique to your system configuration. Each time your configuration changes in any way, you have to load a new license file to enable its functionality.

Note: The license file is always generated by Nortel—whether for initial installations or for upgrades.

Before you begin

Before installing licenses, make sure of the following:

- the build process has been completed successfully
- the network (between the APs and MRSs) is functioning properly
- remote commands (for example, `rcp`) work properly

Installing the license file

To install the license file, follow these steps.

- 1 Insert the license diskette into the floppy drive of the main AP.

This diskette is DOS formatted, and contains any of the following files.

File	Contains	For
w1234500.kcd	KDS (version 2.0) enveloped licensed files	AP1
w1234501.kcd		MRS1
w1234502.kcd		MRS2
w1234503.kcd		MRS3
w1234504.kcd		MRS4
w1234588.kcd		MRS/AP
w1234599.kcd		redundant AP (AP2)

The diskette could also contain raw (unenvveloped) versions of license files.

File	Contains	For
w1234500.kcd	raw licensed file	AP1
w1234501.kcd		MRS1
w1234502.kcd		MRS2
w1234503.kcd		MRS3
w1234504.kcd		MRS4
w1234588.kcd		MRS/AP
w1234599.kcd		redundant AP (AP2)

Note: Any files named differently from the above will *not* work.

- 2 At the UNIX prompt, type the following:

install_licenses

- 3 Monitor the progress of the installation.

If the installation of the licenses to an AP or an MRS was successful, the message Successfully installed license for ... is displayed.

Note: If there are any problems distributing the files to the different MRSs or APs, the following message is displayed:

Unable to copy license file for

This indicates a problem with the network connection. Test your network connections with ping or telnet, and try again.

If there is a problem unwrapping a KDS enveloped license file, the following message is displayed:

Unable to extract license file for

This indicates a likely problem with either the diskette itself or the drive that you are using. Test both of these and then try the installation again.

- 4 Once the license file is successfully loaded, remove the disk from the disk drive.
- 5 Restart the OPEN IVR system. The license takes effect upon startup.

Installing the Antares development package

Perform the following steps to install the Antares development package:

- 1 Access the Service Console Interface (SCI). Refer to Appendix A, "Accessing the Service Console Interface" for information about accessing the SCI.
- 2 At the prompt `/sci>`, type **install** and press <Enter>.
- 3 At the prompt `/sci/install>`, type **package** and press <Enter>.

The system displays the following options:

Nortel Installation Procedure

=====

Select Media Device:

1. CD-ROM
2. Hard Disk (local installs only)

Please enter your selection or q to quit []:

- 4 Type **1** to select the CD-ROM installation media and press <Enter>.

The SCI displays the following message:

Specify which host machine installing FROM and TO:

1. FROM localhost TO localhost
2. FROM remote host TO localhost
3. FROM localhost TO remote host

Please enter your selection or q to quit []:

- 5 Make your selection depending on where the CD-ROM is located. :

If the CD-ROM is on a:	And the TTS resources are on:	Then select:
local server	local server	1
remote server	local server	2
local server	remote server	3

If you have an MRS/AP, select **1**. For unfolded systems which use the remote CD on the AP to install options on the MRS, select **2**. If you select 2 or 3, you will see the prompt for the hostname of the remote machine.

Note: Enter the full domain name if necessary.

After the host information is gathered, you see the prompt:

Enter "c" to continue, "r" to redo, or "q" to quit

- 6 Type **c** and press <Enter>.

The system displays the following message:

```
Insert installation CD into CD-ROM drive at host =>
localhost
```

```
Type q to quit or hit ENTER to continue:
```

- 7 Insert the installation CD-ROM into the CD-ROM drive and press <Enter> to continue.

The system displays the following options:

```
Specify which packages will be installed:
(Enter y or n to select packages, or q to quit)
```

```
-----
AP . . . . . [n]?
MRS. . . . . [n]? y
License Manager. . [n]?

```

```
Enter "c" to continue, "r" to redo, or "q" to quit:
c
```

Press <Enter> to accept the default setting [n] for all choices except MRS, for which you type **y** and press <Enter>. The SCI then displays a menu of options.

- 8 Press <Enter> to accept the default setting (n) for each option except those below indicated with a y, for which you type y and press <Enter>.

Select the MRS packages to be installed:

System packages..... [n]?
Speech technologies..... [n]? y
Installing Dialogic Antares SDK for SCO [n]? y
Installing ASR [n]?
Installing TTS [n]? y
Installing Centigram/Antares-based TTS [n]?
Installing L&H/Antares-based TTS [n]? y
L&H Antares SDK for SCO Unix 3.2 . . . [n]? y
L&H/Antares TTS Option. [n]? y

Note: Install the correct Coff and rules files for the language(s) you are installing.

Installing L&H TTS coff files [n]? y
L&H TTS English coff file . . . [n]? y
L&H TTS German coff file. . . [n]?
L&H TTS Dutch coff file . . . [n]?
L&H TTS French coff file. . . [n]?
L&H TTS Spanish coff file . . . [n]?
L&H TTS Italian coff file . . . [n]?

Installing L&H TTS Rules files [n]? y
L&H TTS English rules files . . [n]? y
L&H TTS German rules files. . . [n]?
L&H TTS Dutch rules files . . . [n]?
L&H TTS French rules files. . . [n]?
L&H TTS Spanish rules files . . [n]?
L&H TTS Italian rules files . . [n]?

Fax, E1/PRI, BRI..... [n]?

DPD, Global Call..... [n]?

Enter "c" to continue, "r" to redo, or "q" to quit:

- 9 Type **c** and press <Enter>.

The SCI displays the following message:

```
Dialogic Antares SDK for Unix 3.2 Installation
```

```
-----
```

Transferring files...

```
The Dialogic Antares UNIX Development Package -  
Version 2.01 Release 2 has already been installed.  
This installation will replace the original  
Dialogic Antares UNIX Development Package - Version  
2.01 Release 2 files.
```

Continue (y/n)?

Note: Disregard any error messages referring to `rm:` and `grep:` that you may see during this portion of the installation. These messages do not impact system operation.

- 10 Type **y** and press <Enter>.

The system displays the following message:

```
Dialogic Antares UNIX Development Package - Version  
2.01 Release 2  
Copyright (c) 1995-1996 Dialogic Corp. All Rights  
Reserved. Press return to continue...
```

- 11 Press <Enter> to continue the installation procedure.

The system displays the following warning:

```
WARNING: Continuing will overwrite the existing  
installation!
```

```
Do you wish to continue [yn] ?
```

- 12** Type **y** and press <Enter>.

The system displays the following message:

Removing libraries ...

Removing files ...

Removing driver(s) ...

At this point in the installation you must select an interrupt vector for the driver. The Antares cards cannot use the same interrupt vector as other Dialogic card type.

Available interrupt vectors: IRQ 2, 3, 4, 5, 10, 11, 12, 14, 15

Please select a vector:

You need to configure the Antares hardware driver. Choose one of the available hardware IRQ settings.

Note: Nortel suggests IRQ 9 for all Antares cards.

- 13** Type **2** and press <Enter>. (This will be internally represented to the system as a "9".)

The system displays the following message:

All Antares cards in the system will use IRQ: 9

Your default Antares card Config file has been created. You will now be placed in vi, and be given a chance to alter this file to suit your needs. Make sure that the interrupt number you chose above is the same in the configuration file.

Press ENTER to continue.

- 14** Press <Enter> to continue the installation procedure.

Note: At this point, the configuration file is open under the vi editor. Do not make any changes unless you are fully aware of the consequences. Under most circumstances, you should simply proceed to the next step.

- 15** Type **<ESC>:wq** to quit out of the vi editor.
- The system displays the following message:
- The configuration is now assumed to be correct.
Do you wish to continue the installation [yn] ?
- 16** Type **y** and press **<Enter>** to continue.
- The system displays the following message:
- If this installation is part of the installation of an application on an end user's machine, you will NOT need to install the library. If you wish to do development work with the driver then you must answer yes to the library installation option.
- Do you wish to install the library [yn] ?
- 17** Type **n** and press **<Enter>** to continue.
- The system displays the following message:
- The driver will now be installed.
- Configuring ...
Installing ...
- In order to install the Dialogic Antares UNIX Development Package - Version 2.01 Release 2, the UNIX kernel must be rebuilt.
- Do you wish to build a kernel now [yn] ?
- 18** If you are installing additional MRS software later which would require you to relink the kernel, type **n**. Otherwise, to rebuild now and continue, type **y**.
- Note:** If you type **n** and choose not to rebuild the kernel, resume your installation procedure at step 21.
- If you choose to rebuild the kernel, then the system displays the following message:
- The UNIX Operating System will now be rebuilt. This will take a few minutes. Please wait.
Root for this system build is /. The UNIX Kernel has

been rebuilt.

Do you want this kernel to boot by default? (y/n)

- 19** Type **y** and press <Enter> to continue.

The system displays the following message:

Backing up /unix to /unix.old

Installing new /unix

The kernel environment includes device node files and /etc/inittab. The new kernel may require changes to /etc/inittab or device nodes.

Do you want the kernel environment rebuilt? (y/n)

- 20** Type **y** and press <Enter> to continue.

The system displays the following message:

The kernel has been successfully linked and installed. To activate it, reboot your system.

Setting up new kernel environment.

Installation complete. UNIX kernel rebuilt successfully.

The system displays the following messages:

Installing files...

/usr/dialogic/cfg/.antirq

/usr/dialogic/cfg/.antstartcmd

/usr/dialogic/cfg/.antstopcmd

/usr/dialogic/data/recplay2.cof

/usr/dialogic/data/recplay2.prm

/usr/dialogic/init.d/StartANT

/usr/dialogic/init.d/StopANT

/usr/dialogic/antdemo/recplay/recplay

/usr/dialogic/antdemo/recplay/recplay.c

/usr/dialogic/antdemo/recplay/record.c

/usr/dialogic/antdemo/recplay/record.h

/usr/dialogic/antdemo/recplay/play.c

/usr/dialogic/antdemo/recplay/play.h

/usr/dialogic/antdemo/recplay/ansctool.c

/usr/dialogic/antdemo/recplay/ansctool.h

/usr/dialogic/antdemo/recplay/makefile

/usr/dialogic/antdemo/hostest/hostest

/usr/dialogic/antdemo/hostest/hostest.c

/usr/dialogic/antdemo/hostest/hostest.h

/usr/dialogic/antdemo/hostest/util.c

/usr/dialogic/antdemo/hostest/util.h

```
/usr/dialogic/antdemo/hostest/ansctool.c
/usr/dialogic/antdemo/hostest/ansctool.h
/usr/dialogic/antdemo/hostest/makefile
/usr/dialogic/bin/antctl
/usr/dialogic/bin/antload
/usr/dialogic/bin/antconf
/usr/dialogic/bin/antmem
/usr/dialogic/bin/sctsant
/usr/dialogic/bin/antinfo
/usr/dialogic/bin/coffcvf

/usr/dialogic/bin/Remove/Remove.ant
Would you like to view the release notes [yn] ?
```

- 21** Respond appropriately and press <Enter> to continue.

The system displays the following message:

```
The installation of the Dialogic Antares UNIX
Development Package - Version 2.01 Release 2 is now
complete.
```

Press ENTER to continue or "q" to quit:

- 22** Press <Enter> to continue the installation procedure.

The system displays the following message:

```
L&H Antares TTS SDK for SCO Unix 3.2 Installation
-----
```

```
----
```

Transferring files...

```
Dialogic Antares TTS Unix Development Package -
System Release 4.2. Copyright (c) 1994 Dialogic
Corp. All Rights Reserved Press return to
continue...
```

- 23** Press <Enter> to continue the installation procedure.

The system displays the following messages:

```
Installing files...
```

```
/usr/dialogic/cfg/lhstts.cfg
```

```
Installing library in /usr/lib
```

```
/usr/lib/libtts.a
```

```
/usr/include/ttsant.h
/usr/dialogic/ttsdemos/demo1
/usr/dialogic/ttsdemos/demo2
/usr/dialogic/ttsdemos/demo3
/usr/dialogic/ttsdemos/demo4
/usr/dialogic/doc/relnote.doc
/usr/dialogic/doc/relnote.txt
/usr/dialogic/bin/coffinfo
/usr/dialogic/bin/hostinfo
/usr/dialogic/bin/Installcoff
/usr/dialogic/bin/mkdct.exe
/usr/dialogic/bin/ttsload
TTS COFF install Copyright (c) 1994-6 Dialogic
Corp. Copyright (c) 1996 Lernout & Hauspie Speech
Products N.V. All Rights Reserved
Press return to continue...
```

- 24** Press <Enter> to continue the installation procedure.

The system displays the following message:

Do you wish to install a COFF-package [yn] ?

- 25** Type **n** and press <Enter>.

The system displays the following message:

The installation of the Dialogic Antares TTS Unix
Development Package - System Release 4.2, v7.00 is
now complete.

Press ENTER to continue or "q" to quit:

- 26** Press <Enter> to continue the installation procedure.

The system displays the following message:

L&H/Antares TTS Option Installation

Transferring files...

Installing files...

Updating system environment...

Installation complete.

The installation of the TSP ATTS Option is now complete.

Press ENTER to continue or "q" to quit:

- 27** Press <Enter> to continue the installation procedure.

The SCI displays the following messages:

L&H TTS American English coff files Installation

Transferring files...

Installation of coff files successful!

Press ENTER to continue or "q" to quit:

- 28** Press <Enter> to continue the installation procedure.

The SCI displays:

L&H TTS American English Rules & Desc. Files
Installation

Transferring files...

Installation of rules & des. files successful!

Press ENTER to continue or "q" to quit:

- 29** Press <Enter> to continue the installation procedure.
- The SCI displays the following messages:
- No other software packages selected.
- Install another software package (y/n)?
- 30** Type **n** and press <Enter>.
- The system displays the following prompt:
- Exiting the installation process.
- The installation procedure is complete when the system displays the /sci/install> prompt.

Activating the L&H/Antares TTS option

When the L&H/Antares Text-to-Speech option components (hardware and software) are installed, activate the option using the /sci/install/setup> menu as follows.

- 1** Access the Service Console Interface. Refer to Appendix A, "Accessing the Service Console Interface", for information about accessing the SCI.
- 2** From the /sci/install/setup menu, type **options** and press <Enter>.

The system displays the available options:

Note: Available options differ between SCbus and PEB environments.

```
antares- Add or delete Antares generic DSP card
based TTS/ASR
gamma- Add or delete gamma fax card
ptcbrd - Add or delete PTC card
hark - add or delete HARK software option
done- Return to the previous menu.
cancel- Return to the previous menu without saving
changes.
/sci/install/setup/options>
```

- 3 Type **antares** and press <Enter>.

The system displays the following message:

No antares cards configured

Please Enter the Antares card number to edit =

Enter the number of the appropriate Antares card,
and press <Enter>.

The system displays the following message:

Current Antares card Does Not Exist - Add it? = can

add - Add a new entry.

cancel - Do not add the new entry.

Antares card Does Not Exist - Add it? =

- 4 Type **add** and press <Enter> to continue.

The system displays the following message:

Current Antares clock = 50

50 - 50MHz Antares card.

33 - 33MHz Antares card.

Antares clock =

- 5 If your system is PEB-based, enter the processor speed of your Antares card and press <Enter> to continue. If your system is SCbus-based, skip to the display in step 6 .

If you are using a PEB-based system, the SCI prompts you to specify the PEB to which the Antares card is connected:

Default Enter PEB Number = 0

Enter PEB Number =

- 6 Type the corresponding PEB number and press <Enter>.

The system displays the following prompt,

Default ANTARES card base I/O address in hex = 0X200

ANTARES card base I/O address in hex =

- 7 Type the base I/O address in hex and press <Enter>.

The system displays the following prompt:

Current Type of data encoding to use? = mu-law

mu-law - Default data encoding used in the US.

a-law - Default data encoding used in Europe.

Type of data encoding to use? =

- 8** If your system is SCbus-based, type **mu-law** for processing data in the US, **a-law** for processing data in Europe, and press <Enter> to continue. If your system is SCbus-based, skip to the display in step 9.

If your system is PEB-based, then the system displays the following message:

```
Current Number of timeslots on PEB bus? = 24
24          - 24 timeslots on PEB bus.
32          - 32 timeslots on PEB bus.
              Number of timeslots on PEB bus? =
```

- 9** Enter the appropriate number of timeslots for your system and press <Enter> to continue.

Note: Select mu-law encoding and 24 timeslots (for T1 systems) or A-law encoding and 32 timeslots (for E1 systems).

The system displays a list of the TTS languages that have been installed. Consider the following example:

Package	Description	# ports/ DSP required	DSPs
1	Centigram English TTS	2	1
2	L&H American English TTS	6	1
3	L&H Dutch TTS	6	1
99	Do not load this DSP		

- 10** For each DSP on the Antares card, the SCI prompts you for the language to be loaded. Type the package number and press <Enter>.

Note: Only one technology can be installed on a card (for example, only L&H). You can install up to two different L&H TTS languages on the same card. At least one DSP must be loaded with a language package.

For example, the following loads the L&H American English TTS package on each of the four DSPs.

```
Enter Package Number for DSP #1 2
2          L&H American English TTS      6      1
99         Do not load this DSP
```

```
Enter Package Number for DSP #2 2
  2      L&H American English TTS      6      1
99      Do not load this DSP
```

```
Enter Package Number for DSP #3 2
  2      L&H American English TTS      6      1
99      Do not load this DSP
```

```
Enter Package Number for DSP #4 2      6      1
  2      L&H American English TTS      6      1
99      Do not load this DSP
```

11 At the `/sci/install/setup/options>` prompt, type **done** and press `<Enter>`.

12 At the `/sci/install/setup>` prompt, type **done** and press `<Enter>` to save the new configuration.

The installation and activation of the MRS software 4.0 L&H/Antares TTS option is complete.

Restarting the system

You must restart the MRS system for your new installation to take effect. Perform the following steps to restart the system.

1 Make sure that you remove the installation media from the drive.

2 At the `/sci/install>` prompt, type **restart** and press `<Enter>`.

The system verifies the integrity of the newly installed packages and informs you of any inconsistencies.

The MRS starts to come down, and automatically reboots once it reaches the shutdown state.

Allow the system to boot up normally. Note that this process can take several minutes.

When the system comes up, the new installation is in effect.

Note: If, after installation of this option, you need to install languages and the associated Rules and Description files, refer to those steps in the installation.

Chapter 3: TruVoice Text-to-Speech option

This chapter presents information about the TruVoice Text-to-Speech (TTS) option. It is divided into the following sections:

- overview
- system requirements
- installation procedures

TruVoice Text-to-Speech overview

The TruVoice Text-to-Speech option is based on the Antares Digital Signal Processing (DSP) card and speech synthesis algorithms and TruVoice Text-to-Speech software. This option is available on all MRS systems, and includes the following features.

- includes a pre-processor with e-mail reading capabilities
- includes a user-definable pronunciation dictionary
- has an unlimited spoken vocabulary
- automatically changes intonation for grammatical demarcators
- automatically expands abbreviations
- supports up to eight channels per Antares card in two-port increments
- only supports the English language

Symposium OPEN IVR 4.0 supports both SCbus and PEB-based systems.

The Antares 2000 card

The Antares 2000 is a DSP platform developed for high-density multichannel computer telephony applications. The Antares platform is supported by a complete open development environment designed to quickly integrate call processing technologies into commercial computer telephony systems.

The Antares card may operate in PEB or SCbus mode, subject to technology deployed on the card. SCbus provides an open architecture that enables developers to use products from multiple vendors to build unified client server call processing systems. SCbus (or PEB) connectivity provides access to a wide variety of off-the-shelf call processing products, including internationally approved analog and digital interfaces.

Antares dongles

Antares dongles are small (approximately 1/2 inch) black devices which attach to the Antares cards. Up-to-date dongles are needed on the Antares cards to support each current text-to-speech technology.

ATTENTION

If you have a dongle previously used in OPEN IVR 2.01 or OPEN IVR 2.5, *these will not work in SOIVR 4.0*. Such dongles will have to get replaced by new ones.

Components

The TruVoice Text-to-Speech TTS update is comprised of the following software components:

- Antares Software Developers Base Package SDK for UNIX SVR 3.2
- TruVoice TTS Option
- TruVoice TTS for UNIX
- TruVoice Rules and Description Package

Note: Every shipment of Symposium OPEN IVR 4.0 includes a License key file that specifies the options for that installation.

This update option is included on the MRS software Release 4.0 CD-ROM.

This guide documents the prerequisites and procedures to install and configure the TruVoice Text-to-Speech option.

System requirements

Before installing the TruVoice TTS option, make sure that your system has the following:

- a SCbus or PEB system configuration

Note: The installation will differ depending on your system's bus environment.

- a license file supporting TTS functionality on an AP, TruVoice Text-to-Speech on an MRS, and both TTS and TruVoice Text-to-Speech on an MRS/AP.

Installation procedures

Note: New systems, if they are to include the text-to-speech option software, have it preloaded at the factory. The software installation procedures discussed in this section are instructions for restoring the software. They are also available for those who may have purchased this option separately after the initial purchase of the base system.

This installation consists of the following procedures, which you perform in this order. (If there is an older version of any software, remove it first).

- 1 Install Antares card.
- 2 Install the new license file.
- 3 Install the Antares UNIX Development Package.
- 4 Install the MRS 4.0 TruVoice Text-to-Speech option software.
- 5 Install the TruVoice TTS for UNIX software.
- 6 Install the TruVoice Text-to-Speech rules and description package.
- 7 Activate the newly installed Antares hardware cards.
- 8 Restart the system.

Before proceeding, ensure that your system meets the requirements described earlier in this chapter.

Installing an Antares hardware card

This section provides information about installing an Antares hardware card.

Note: Perform this procedure only if you are adding an Antares hardware card to your MRS.

Configuration considerations

Before installing the Antares card(s) in your system, address the following configuration considerations:

- The security key (dongle) must be installed on the Antares card. It contains the correct information on the number of TTS channels and the language to be used.
- Do not install a PEB terminator on the Antares card unless the Antares card is installed at the end of the bus on a PEB system.
- Set the SW1 switches to specify the I/O address of the card. (For further information, refer to Appendix C, “Text-to-Speech card configuration”).

Installation sequence

Follow these steps to install the Antares card.

- 1 Wear an anti-static wrist band when handling the option cards. Unpack the Antares card(s) and remove from the antistatic bag.

Note: Always observe proper precautions when working with the system. Be sure to follow all electrostatic discharge (ESD) guidelines during configuration and installation of the option cards.
- 2 Shut down the MRS system as described in the appropriate MRS system product manual.
- 3 Once the shutdown process is complete, turn off the power to the system.
- 4 Configure the Antares card(s) as shown on the configuration drawings in Appendix C, “Text-to-Speech card configuration”. You can install the Antares card in any open system slot. However, if you need to install the Antares card at the end of a PEB bus, terminate the Antares card with a PEB terminator.
- 5 Open the system and find an open slot(s) where you can install the Antares card(s). Remove the SCbus/PEB or PEB cable from any cards that are already connected.

- 6 Insert the Antares card(s) into the open slot(s) in your system.
- 7 If you are installing multiple Antares cards, connect all the cards together using the SCbus/PEB or PEB cable supplied with the Antares option. You may need to lift some cards from their slots in order to attach the cable.
- 8 Seat and align the cards properly before securing the card with retaining screws.
- 9 Power up the system and allow it to boot normally. The hardware installation portion of the Antares option is complete.
- 10 Proceed to the next section.

The license file

The License file is unique to your system configuration. Each time your configuration changes in any way, you have to load a new license file to enable its functionality.

Note: The license file is always generated by Nortel—whether for initial installations or for upgrades.

Before you begin

Before installing licenses, make sure of the following:

- the build process has been completed successfully
- the network (between the APs and MRSs) is functioning properly
- remote commands (for example, `r cp`) work properly

Installing the license file

To install the license file, follow these steps.

- 1 Insert the license diskette into the floppy drive of the main AP.

This diskette is DOS formatted, and contains any of the following files.

File	Contains	For
w1234500.kcd	KDS (version 2.0) enveloped licensed files	AP1
w1234501.kcd		MRS1
w1234502.kcd		MRS2
w1234503.kcd		MRS3
w1234504.kcd		MRS4
w1234588.kcd		MRS/AP
w1234599.kcd		redundant AP (AP2)

The diskette could also contain raw (unenvveloped) versions of license files.

File	Contains	For
w1234500.kcd	raw licensed file	AP1
w1234501.kcd		MRS1
w1234502.kcd		MRS2
w1234503.kcd		MRS3
w1234504.kcd		MRS4
w1234588.kcd		MRS/AP
w1234599.kcd		redundant AP (AP2)

Note: Any files named differently from the above will *not* work.

- 2 At the UNIX prompt, type the following:

install_licenses

- 3 Monitor the progress of the installation.

If the installation of the licenses to an AP or an MRS was successful, the message `Successfully installed license for ...` is displayed.

Note: If there are any problems distributing the files to the different MRSs or APs, the following message is displayed:

`Unable to copy license file for ....`

This indicates a problem with the network connection. Test your network connections with `ping` or `telnet`, and try again.

If there is a problem unwrapping a KDS enveloped license file, the following message is displayed:

`Unable to extract license file for ....`

This indicates a likely problem with either the diskette itself or the drive that you are using. Test both of these and then try the installation again.
- 4 Once the license file is successfully loaded, remove the disk from the disk drive.
- 5 Restart the OPEN IVR system. The license takes effect upon startup.

Installing the TruVoice Text-to-Speech option

Follow these steps to install the TruVoice Text-to-Speech option.

- 1 At the `/sci/install>` prompt, type **package** and press <Enter>. The system displays the following options:

`Select Media Device:`
`1. CD-ROM`
`2. Hard Disk (local installs only)`
`Please enter your selection or q to quit []:`
- 2 Select **1** and press <Enter>.

The system displays the following options:

`Specify which host machine is installing FROM and`

T0:

1. FROM localhost T0 localhost
2. FROM remote host T0 localhost
3. FROM localhost T0 remote host

Please enter your selection or q to quit []:

- 3** Make your selection depending on where the CD-ROM is located. :

If the CD-ROM is on a:	And the TTS resources are on:	Then select:
local server	local server	1
remote server	local server	2
local server	remote server	3

If you have an MRS/AP, select **1**. For unfolded systems which use the remote CD on the AP to install options on the MRS, select **2**. If you select 2 or 3, you will see the prompt for the hostname of the remote machine.

Note: Enter the full domain name if necessary.

After the host information is gathered, you see the prompt:

Enter "c" to continue, "r" to redo, or "q" to quit

- 4** Type **c** to continue.

You see the prompt:

Insert installation CD into CD-ROM drive at host
=> localhost.

Type q to quit or hit ENTER to continue:

- 5 Insert the CD into the CD-ROM drive and press <Enter> to continue.
- Note:** The “localhost” name shown above may be another host name, depending on the type of installation.
- You see the prompt,
- Specify which packages will be installed:
(Enter y or n to select packages, or q to quit)
- AP [n]?
MRS [n]?
License Manager[n]?
Enter “c” to continue, “r” to redo, or “q” to quit:
- 6 Type **y** for the MRS selection and type **c** to continue.
- You see the prompts:
- Select the MRS packages to be installed:
- System packages[n]?
Speech technologies[n]?
- 7 Type **y** for the Speech Technologies package.
- You see the prompts:
- Installing Dialogic Antares SDK for SCO [n]?
Installing ASR [n]?
Installing TTS [n]?
Installing Centigram/Antares-based TTS [n]?
Centigram Antares TruVoice SDK for Unix[n]?
Centigram TTS Option[n]?
Centigram TTS English rules files[n]?
- 8 Type **y** for all (except for Installing ASR). Press <Enter> to move through the other option install prompts.
- You see the prompt:
- Enter “c” to continue, “r” to redo, or “q” to quit:
- 9 Type **c** to continue.
- If the TruVoice TTS option has been previously installed, you will see the prompt to replace the original copy.

- 10** Type **y** to continue.

The system responds by installing the TruVoice TTS option and provides informational messages during the installation. When the installation is complete, the system responds with the following message:

Installation complete.

It then displays this prompt:

Press ENTER to continue or "q" to quit:

- 11** Type **q** to quit.

- 12** After the `/sci/install>` prompt is displayed, type **restart** and press <Enter>.

The MRS system starts coming down. The system automatically reboots once it reaches the shutdown state. Allow the system to boot up normally; it takes several minutes. When the system comes up again, the TruVoice TTS option is installed.

Installing the Antares development package

The Antares development package is installed from the Symposium OPEN IVR Release 4.0 CD-ROM.

To install the Antares development package, follow these steps:

- 1** Access the Service Console Interface (SCI), as described in Appendix A, "Accessing the Service Console Interface".

From the `/sci/install>` prompt, type **package** and press <Enter>.

The system displays the following options:

Select Media Device:

1. CD-ROM

2. Hard Disk (local installs only)

Please enter your selection or q to quit []:

- 2 Select 1, indicating the CD-ROM option, and press <Enter>.
The system displays the following options:
Specify which package will be installed:
1. MRS package
2. License Manager
3. AP
Please enter your selection or q to quit []:
- 3 Select 1, indicating an MRS package option installation, and press <Enter>.
- 4 Insert disk 1 of the Antares UNIX Development Package version 2.01, Release 2, in the disk drive and press <Enter>.
The system displays:
Searching for the Size file
Install in progress
- 5 When prompted, insert disk 2 in the disk drive and press <Enter>.
Disregard any error messages referring to rm: and grep: that you may see during this portion of the installation; they do not impact system operation.
- 6 When the installation is complete, press <Enter> to configure the Antares hardware driver.
The system then displays available IRQ numbers and prompts you to select an available hardware IRQ setting:
Available interrupt vectors: IRQ 3, 4, 5, 11, 12, 14
Please select a vector:
Note: Nortel suggests IRQ 9 for all Antares cards.
- 7 Type 2 and press <Enter>. (This will be internally represented to the system as a "9".)
The system displays the following message:
All Antares cards in the system will use IRQ: 9
Your default Antares card Config file has been created. You will now be placed in vi, and be given a chance to alter this file to suit your needs. Make sure that the interrupt number you chose above is

the same in the configuration file.
Press ENTER to continue.

- 8** Press <Enter>.

When the settings in the configuration file are satisfactory, type
<ESC> :wq to quit out of the vi editor.

The system displays the following message:

The configuration is now assumed to be correct.
Do you wish to continue the installation [yn]?

- 9** Type **y** and press <Enter> to continue.

The system displays the following message:

If this installation is part of the installation of
an application on an end user's machine, you will
NOT need to install the library. If you wish to do
development work with the driver then you must
answer yes to the library installation option.
Do you wish to install the library [yn]?

- 10** Type **n** and press <Enter> to continue.

The system displays the following message:

The driver will now be installed.
Configuring...
Installing...

In order to install the Dialogic Antares UNIX
Development Package - Version 2.01 Release 2, the
UNIX kernel must be rebuilt.
Do you wish to build a kernel now [yn]?

- 11** Type **y** and press <Enter> to continue.

The system displays the following message:

The UNIX Operating System will now be rebuilt.
This will take a few minutes. Please wait.

Root for this system build is /.
The UNIX Kernel has been rebuilt.

Do you want this kernel to boot by default? (y/n)

- 12** Type **y** and press <Enter> to continue.

The system displays the following message:

```
Backing up /unix to /unix.old
Installing new /unix
The kernel environment includes device node files
and /etc/inittab. The new kernel may require
changes to /etc/inittab or device nodes.
Do you want the kernel environment rebuilt? (y/n)
```

- 13** Type **y** and press <Enter> to continue.

The system displays the following message:

```
The kernel has been successfully linked and
installed.
```

```
To activate it, reboot your system.
```

```
Setting up new kernel environment
Installation complete. UNIX kernel rebuilt
successfully.
Once the new kernel takes effect, the system
continues the installation:
Installing files...
The system lists the new files and displays the
message:
Would you like to view the release notes [yn]?
```

- 14** Type **n** and press <Enter> to continue.

The system displays the following message:

```
/usr/dialogic/doc/ant.doc
```

```
The Dialogic Antares UNIX Development Package -
Version 2.01 Release 2 package installation is now
complete.
```

```
The installation of the Dialogic Antares UNIX
Development Package - Version 2.01 Release 2 is now
complete.
```

```
/sci/install>
```

```
The Antares driver installation is now complete.
```

Proceed to the next section to continue installing the complete TruVoice Text-to-Speech Development package.

Installing the TruVoice Text-to-Speech option

The TruVoice Text-to-Speech option package is installed from the Symposium OPEN IVR Release 4.0 CD-ROM.

Follow these steps to install the MRS software 4.0 TruVoice Text-to-Speech option.

- 1 Access the Service Console Interface (SCI), as described in Appendix A, "Accessing the Service Console Interface".

From the `/sci/install>` prompt, type **package** and press <Enter>.

The system displays the following options:

Select Media Device:

1. CD-ROM
 2. Hard Disk (local installs only)
- Please enter your selection or q to quit []:

- 2 Select **1**, indicating the CD-ROM, and press <Enter>.

The system displays the following options:

Specify which package will be installed:

1. MRS package
2. License Manager
3. AP

Please enter your selection or q to quit []:

- 3 Select **1**, indicating an MRS package option installation, and press <Enter>.

- 4 Insert the TruVoice TTS Option disk in the appropriate drive.

Disregard any error messages referring to `rm:` and `grep:` that you may see during this portion of the installation; they do not impact system operation.

The system displays the following messages:

```
Installing files...
Updating system environment...
Installation complete.
The installation of the MRS TTS Option is now
complete.
/sci/install>
```

The system displays the `/sci/install>` prompt when finished. Proceed to the next section.

Installing the TruVoice package

The TruVoice package contains the device drivers for the Antares card that enable the TruVoice TTS option to function.

To install the TruVoice package, follow these steps.

- 1 Access the Service Console Interface (SCI), as described in Appendix A, "Accessing the Service Console Interface".

From the `/sci/install>` prompt, type **package** and press <Enter>.

The system displays the following options:

Select Media Device:

1. CD-ROM
 2. Hard Disk (local installs only)
- Please enter your selection or q to quit []:

- 2 Select **1**, indicating the CD-ROM, and press <Enter>.

The system displays the following options:

Specify which package will be installed:

1. MRS package
2. License Manager
3. AP

Please enter your selection or q to quit []:

- 3 Select **1**, indicating an MRS package option installation, and press <Enter>.

The system displays the following message:

Install in progress

Note: Disregard any error messages referring to `rm:` and `grep:` that you may see during this portion of the installation; they do not impact system operation.

The system displays the following messages:

```
Antares Centigram TruVoice TTS for Unix - Version
1.00 Production Copyright (c) 1991-1997 Dialogic
Corp.All Rights Reserved Press return to
continue...
```

- 4 Press <Enter> to continue.

The system displays the following messages:

```
If this installation is part of the installation of
an application on an end user's machine, you will
NOT need to install the library. If you wish to do
development work with the driver then you must
answer yes to the library installation option.
```

```
Do you wish to install the library [yn]?
```

- 5 Type **n** and press <Enter> to continue.

The system displays the following messages:

```
Library will not be installed.
Press return to continue...
```

- 6 Press <Enter> to continue.

The system displays the following messages:

```
Installing files...
/usr/dialogic/data/cgrmtts.cof
/usr/dialogic/data/cgrmtts.prm
/usr/dialogic/antdemo/cgrm/ttsdemo.h
/usr/dialogic/antdemo/cgrm/ttsdemo.c
/usr/dialogic/antdemo/cgrm/state01.inp
/usr/dialogic/antdemo/cgrm/ansctool.h
/usr/dialogic/antdemo/cgrm/ansctool.c
/usr/dialogic/antdemo/cgrm/makefile
Would you like to view the release notes [yn]?
```

- 7 Respond appropriately and press <Enter> to continue.

The system displays the following messages:

```
/usr/dialogic/doc/cgrmrelnot.txt
The installation of the Antares Centigram TruVoice
TTS for Unix - Version 1.00 Production is now
complete.
/sci/install>
```

The system displays the `/sci/install>` prompt when finished. Proceed to the next section.

Installing the TruVoice rules and description package

Follow these steps to install the TruVoice Text-to-Speech rules and description package.

- 1** Insert the first disk of the TruVoice rules and description package in the disk drive.
- 2** At the `/sci/install>` prompt, type **extracttar** and press `<Enter>`. If you are installing multiple rules and description packages, you must repeat steps 1 and 2 for each package.
- 3** The system displays the `/sci/install >` prompt when finished.
Proceed to the next section.

Activating the TruVoice Text-to-Speech option

When the TruVoice Text-to-Speech option components (hardware and software) are installed, activate the option using the `/sci/install/setup` menu. Access to this menu of utilities is restricted to only trained personnel using `service` account privileges.

- 1 Access the Service Console Interface, as described in Appendix A, "Accessing the Service Console Interface".
- 2 From the `/sci/install/setup>` menu, type **options** and press `<Enter>`.

If you have a PEB system, the system displays the following information:

```
antares      - Add or delete Antares... TTS/ASR
vr/160       - Add or delete VCS card
gamma        - Add or delete gamma fax card
brooktrout   - Add or delete brooktrout fax card
ptcbird      - Add or delete PTC card
done         - Return to the previous menu
cancel       - Return... menu without saving changes
/sci/install/setup/options>
```

If you have an SC bus system, the system displays the following information:

```
antares      - Add or delete Antares... TTS/ASR
gamma        - Add or delete gamma fax card
hwsetup      - Display current hardware setup
done         - Return to the previous menu
cancel       - Return... menu without saving changes
/sci/install/setup/options>
```

- 3 Type **antares** and press `<Enter>`.
The system displays the following message:
No antares cards configured
Please Enter the Antares card number to edit =
- 4 Enter the number of the appropriate Antares card and press `<Enter>`.
The system displays the following message:
Current Antares card Does Not Exist - Add it? -

```
cancel
add          - Add a new entry
cancel      - Do not add the new entry
Antares card Does Not Exist - Add it? =
```

- 5** Type **add** and press <Enter>.

The system displays the following information:

```
Current Antares clock = 50
50          - 50MHz Antares card
33          - 33MHz Antares card
Antares clock =
```

- 6** To accept the default value of 50, press <Enter>, or specify the value 33, and press <Enter>.

For SCbus systems, skip this step and go to Step 7.

For PEB bus systems, the system displays the following information:

```
Default Enter PEB Number = 0
Enter PEB Number =
```

Press <Enter> to accept the default PEB number, or type the appropriate value and press <Enter>.

- 7** The system displays the following information:

```
Default Antares card base I/O address in hex = 0x200
Antares card base I/O address in hex =
```

- 8** Press <Enter> to accept the default address, or specify a new address and then press <Enter>.

The system displays the following information:

```
Current Type of data encoding to use = mu-law
mu-law          - Default data encoding used in the US.
a-law           - Default data encoding used in Europe.
Type of data encoding to use? =
```

- 9 To accept the default data encoding, press <Enter>, or type the new encoding standard and then press <Enter>.

For SCbus systems, proceed to step 11.

The system displays the following information:

```
Current number of timeslots on PEB bus? = 24
24      - 24 timeslots on PEB bus.
32      - 32 timeslots on PEB bus.
        Number of timeslots on PEB bus? =
```

- 10 To accept the current number of timeslots, press <Enter>, or change the number and then press <Enter>.
- 11 The system displays the available language packages that can be assigned to each of the four DSPs on the Antares card. Each package is assigned a number value.

Note: Enter a value of 99 for all unassigned DSPs.

- 12 Select the number for the TruVoice North American English TTS package for each of the four DSPs you want to activate with this text-to-speech package.

Once you have selected the language packages for each DSP, the setup is complete and the system displays the options prompt:

```
/sci/install/setup/options
```

- 13 Type **done**, and press <Enter> (first time).
- 14 Type **done**, and press <Enter> (second time), to return to the /sci/install> prompt.

This is the end of the installation of the Symposium OPEN IVR 4.0 TruVoice Text-to-Speech option. Proceed to the next step to restart your system.

Restarting the system

You must restart the MRS for your new installation to take effect. To do so, follow these steps.

- 1 Make sure that you remove the CD from the CD-ROM drive.
- 2 At the `/sci/install>` prompt, type **restart** and press <Enter>.

The system verifies the integrity of the newly installed packages and informs you of any inconsistencies.

The MRS starts to come down. The system automatically reboots once it reaches the shutdown state.

Allow the system to boot up normally which can take several minutes.

When the system comes up, your new installation is in effect.

Chapter 4: Testing your TTS setup

The NTTEST software is installed during the system installation, and is resident on the system. It includes diagnostics for testing various applications on your system, including your ASR configuration. For further information about NTTEST, refer to Chapter 24, “Verification test (NTTEST), in the *Installation, Upgrade, and Maintenance Guide*.

It is assumed that those testing the ASR applications are familiar with standard system administration procedures, the details of which are documented in the *System Administration Guide*.

1 Load/run NTTEST and its applications

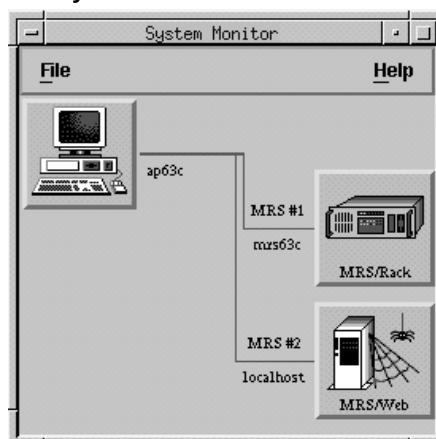
Run the script `nttest_str`. This loads NTTEST and all its sub applications.

2 Verify the channel alignment

Note: Your system must have been configured already. It should be set to Ring trip, Input, and LoopStart Initialization type as the preferred configuration. Any telephone company changes required would be done through editing of the trunk type files.

- a Access the System Administration pull-down menu by pointing and clicking mouse button 1 on the System Administration icon (MRS box with arrows) on the control panel.
- b Select the System monitor menu option which will open the System Monitor administration menu. When the outline of a box shows up, move the box to a space on the desktop where you can view it. Select mouse button 1 to show the system monitor.

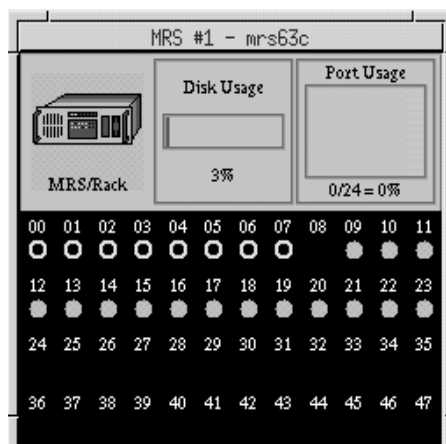
Figure 4-1: System monitor



Note: For more information on how the System Monitor works, please refer to the Release 4.0 *Symposium OPEN IVR System Administration Guide*.

- c Select the MRS icon to display the system status window (Figure 4-2). This window contains information on the various channels status.

Figure 4-2: Status Information



Gray Ring means outgoing. Gray circle means incoming on the channel monitor. When the application is loaded, channels assigned, and the application started, the gray circle will change to a yellow ring.

3 Verify/modify the channel alignment

Once the test application is loaded, you can assign channels to the application and enter all incoming channels.

If the channels assigned to the test do not match those currently configured on your system (as seen on your system monitor), make the appropriate adjustments. Else continue to Step 5.

To set channels, follow these steps.

- a** In the Application Management window, press F3.
- b** Enter the channel range and press <Enter>.

The channels you enter will be listed in the channel range column of the Application Management screen.

4 Test the TTS setup

To test the TTS setup, do the following:

- a** Place a call to a number that corresponds to a channel on the MRS (MRS/AP) system. The system monitor MRS #1 window will display a solid yellow circle to indicate that the call went through on that channel.
- b** Follow the prompts as they guide you through the testing of the application. When you select the TTS test option you should hear a TTS prompt play and a subsequent recorded prompt informing you that the test was successful.

5 Stop the test application

To stop the test application, run the NTTEST_stp script. This will unload NTTEST and all the sub applications.

6 Exit Application Management

- a** To exit Application Management, press <F4> to access the Application Management main menu.
- b** Select Exit. The System Application management window closes.

Check the results

All completions of tests are recorded in the event . log file in the directory /u/nortel/log.d.

Appendix A: Accessing the Service Console Interface

You can access the Service Console Interface (SCI) from a dumb terminal, a modem via the RS-232-C, or the application processor via the Ethernet.

See the following sections:

- “Using a terminal to access the SCI” on page A-2
- “Using a modem to access the SCI” on page A-2
- “Using the LAN to access the SCI” on page A-4
- “Accessing the SCI on an MRS/AP” on page A-5

Default account passwords

The default account passwords shipped with the system are as follows:

Account	Password	Comment
admin	admin1	site administrators on MRS, AP, and MRS./AP
service	service1	service account on MRS
user	user1	routine maintenance on MRS

Using a terminal to access the SCI

To use a terminal to access the SCI, follow these steps.

- 1 Connect a video terminal to the MRS system port B using an appropriate communications cable.
- 2 Set the terminal parameters as follows:

baud rate	2400 or 9600
duplex	Full
data bits	8
stop bits	1
parity	none
add LF	off
- 3 Press <Enter> and the following message is displayed:

```
<system name>  
MRS Service Access Port Revision 4.00  
Copyright 1991-1997, Nortel Corp. All Rights  
Reserved  
Login:
```
- 4 At the login: prompt, enter the appropriate account name. The passwords for these accounts are listed in "Default account passwords" on page A-1.
- 5 After you log in, the system prompts you for your terminal type. If the default terminal type displayed is correct, press <Enter>; otherwise, type in the correct terminal type. (VT100 and ANSI are sample terminal types that can be entered at the TERM> prompt.)

Once this is completed, the SCI main menu is displayed.

Using a modem to access the SCI

Special modem instructions

To allow remote access for support and maintenance, a modem must be attached to your Nortel system. To take advantage of this feature, you must attach the modem between your Nortel system and the telephone network.

Nortel has tested and found the U.S. Robotics Sportster 9600/28.8/33.6 modems compatible. US Robotics 14.4 modems were not compatible and therefore not included in this list.

North American customers

North American customers receive a modem with the Nortel system.

International customers

Because of the different telephone network regulations throughout the world, international customers do not receive a modem with the Nortel system. Nortel recommends that international customers consult with their local telephone service provider to determine an appropriate modem (U.S. Robotics Sportster 9600/28.8/33.6 or the equivalent) for their installation.

Modem procedure

To use the modem to access the SCI, follow these steps:

- 1** Connect the modem to a serial port on your MRS system using a standard modem cable, then connect the modem to the telephone network.
- 2** From the remote location, dial in to the modem and wait for an answer. Once the modem is connected, press the <Enter> key. The following message should display:

```
<system name>  
MRS Service Access Port          Revision 4.00  
Copyright 1991-1997, Nortel Corp. All Rights  
Reserved  
login:
```

- 3** At the login: prompt, enter the appropriate account name. The passwords for these accounts are listed in "Default account passwords" on page A-1.
- 4** After you log in, the system prompts you for your terminal type. If the default terminal type displayed is correct, press <Enter>; otherwise, type in the correct terminal type. (VT100 and ANSI are sample terminal types that can be entered at the TERM> prompt.)

Once this is completed, the SCI main menu is displayed.

Note: On an MRS/AP, if you log in as root, a # prompt is displayed. At the # prompt, type `/usr/vrs/tools/sci -b /usr/vrs` and press <Enter> to access the SCI menu.

Using the LAN to access the SCI

To access an MRS across a LAN, the MRS must be connected to either an Ethernet or Token Ring network, and the host that will access the MRS must support TCP/IP and telnet (or rlogin).

To access the SCI using the Ethernet, follow these steps.

- 1 At the host command line, type the command: **telnet 128.1.1.111** and press <Enter>.

If the host is an X Window-based UNIX workstation, Nortel recommends that this command be issued from an xterm window.

Note: If the Internet address for your MRS has been changed, enter the correct Internet address instead of the default address shown. This address is noted on your equipment list.

- 2 Once the session is connected, the following message should display:
login:

- 3 At the login: prompt, enter the appropriate account name. The passwords for these accounts are listed in "Default account passwords" on page A-1.

- 4 After you log in, the system prompts you for your terminal type. If the default terminal type displayed is correct, press <Enter>; otherwise, type in the correct terminal type. (VT100 and ANSI are sample terminal types that can be entered at the TERM> prompt.)

Once this is completed, the SCI main menu is displayed, followed by the /sci> prompt.

Note: On an MRS/AP, if you log in as root, a # prompt is displayed. At the # prompt, type **/usr/vrs/tools/sci -b /usr/vrs** and press <Enter> to access the SCI menu.

Accessing the SCI on an MRS/AP

The modem method (page A-2) and the telnet method (page A-4) can be used to access the SCI on an MRS/AP.

Also, if you have direct access to the console of the MRS/AP system, you can log in and access the SCI using these steps:

- 1 Press the <ALT>, <CNTRL>, and <F1> keys to access the command-line screen.
- 2 At the login: prompt, enter the appropriate account name. The passwords for these accounts are listed in "Default account passwords" on page A-1.
- 3 After you log in, the system prompts you for your terminal type. If the default terminal type displayed is correct, press <Enter>; otherwise, type in the correct terminal type. (VT100 and ANSI are sample terminal types that can be entered at the TERM> prompt.)

Note: If you log in as root, a # prompt is displayed. At the # prompt, type **sci.start** and press <Enter> to access the SCI menu.

Appendix B: How to reconfigure an option

If you wish to reconfigure the settings for an option, you must first delete the current TTS configuration.

To delete the current TTS configuration, follow these steps.

- 1 Access the Service Console Interface (SCI). Refer to Appendix A, “Accessing the Service Console Interface”, for more information about accessing the SCI.
- 2 Access the /sci/setup/options menu.
- 3 Select the antares option.
- 4 When prompted for the board to edit, type the number of the board you want to delete.
- 5 When prompted to cancel or delete, type **delete** followed by <Enter>.
- 6 Reactivate the TTS option as described for each applicable option:

For this option	See this section
L&H Antares	“Activating the L&H/Antares TTS option” on page 2-18
TruVoice Text-to-Speech	“Activating the TruVoice Text-to-Speech option” on page 3-18

Appendix C: Text-to-Speech card configuration

Both the TruVoice Text-to-Speech and the L&H Options are based on the Antares card.

The Antares card is a general-purpose DSP platform for deployment of various speech technologies. The personality of the card is determined by the board configuration via TSP software and specific algorithms downloaded onto the board at boot time. All technologies are licensed via a security key (dongle) located in the upper right corner of the board, and a License File loaded on the MRS as a part of the TSP installation process. The dongle contains information on the number of enabled channels and the language to use.

Note: A red status LED indicates a fatal error. This can be caused by a missing security key or a board crash.

Types of cards. There are two types of Antares 2000 cards available—33 Mhz and 50 Mhz. You can tell one type of board from the other by looking at the name on the face of each of the DSP chips. The requirements of whether it is necessary to use the faster board for some algorithms versus others are noted in the corresponding release notes for each technology. Also, 50 Mhz Antares cards have only one PEB Terminator socket, while 33 Mhz Antares cards have dual PEB terminator sockets.

The Antares 2000/50 card

Set switch SW1 to uniquely identify the Antares card in the system. SW1 sets the board I/O address as shown in Table C-1. Table C-1 also lists available I/O addresses for installation of Antares cards in the system.

Table C-1: Antares card I/O address SW1 settings

	I/O address	1	2	3	4
Card 1	210–217h	on	off	on	on
Card 2	218–21Fh	off	off	on	on
Card 3	220–227h	on	on	off	on
Card 4	228–22Fh	off	on	off	on

Mode of operation. The Antares card may operate in PEB or SCbus mode, subject to technology deployed on the card. A PEB Terminator is only necessary when the card is operating in the PEB mode. No terminators are necessary for the SCbus mode of operation.

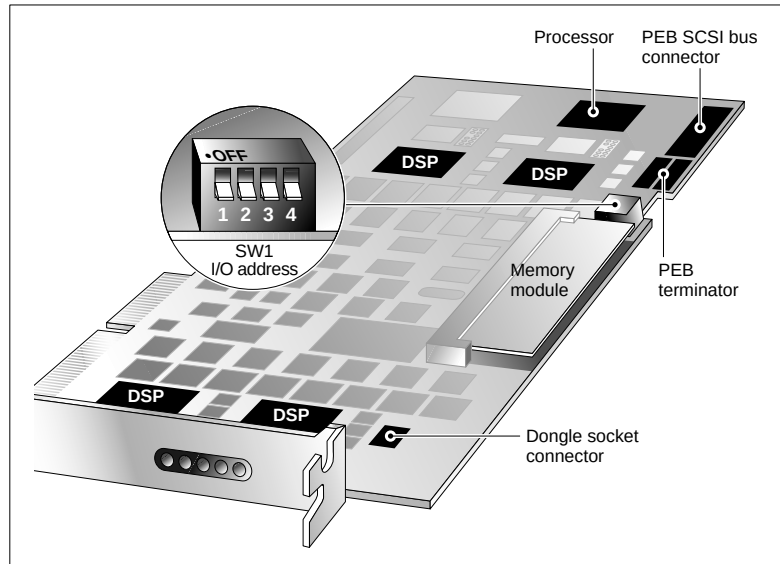
Termination needs. When running in PEB mode, PEB terminators must be installed at the end of the PEB bus to ensure proper electrical characteristics of the PEB bus. Unless otherwise specified, install PEB terminators in the lower termination socket (50Mhz Antares cards have only one PEB terminator socket) as a Resource Module.

IRQ selection. IRQ selection is performed during installation of the Antares Device Driver and, by default, should be set to 9. One IRQ line is shared by multiple Antares cards. Avoid IRQ conflicts with other cards.

Antares dongles. Antares dongles are small (approximately 1/2 inch) black devices which attach to the Antares cards. Up-to-date dongles are needed on the Antares cards to support the current text-to-speech technology.

Note: Antares dongles used in OPEN IVR 2.01 and OPEN IVR 2.5 can not be reused in SOIVR 4.0.

Figure C-1: The Antares 2000/50 card



Note: The PEB/SCbus terminator on the Antares board is never attached in the Network Module Configuration because the board cannot interface directly with the network. Note that on the Antares 2000/50 board, the only available position on the xterm socket is the Resource Module Configuration.

PEB bus connectivity rules

The PCM Expansion Bus (PEB) is a digital voice bus for sending voice across different voice processing cards and components in the same PC. It is an open platform, yet has strict rules regarding card positioning and termination. Cards on any one PEB must have a contiguous slot allocation (e.g. a card on PEB 2 must not be inserted in a slot between the first card and last card of PEB 1). The following are PEB connectivity rules.

Connecting the ends

For all configurations with more than one PEB card in the system, one end of the PEB must always be connected to either a high density card(s) or a telco interface card(s).

For low density configurations, the opposite end of the PEB must always be connected to a voice processing card(s).

Ordering and termination

Option cards must be installed between the telco interface card(s) and the voice processing card(s) for low density configurations. For high density configurations using option card(s), an option card should terminate the PEB.

The first and the last board on the PEB must be terminated, while other boards should not be terminated.

In cases where a high density card is the only card in the system, such as D/240SC-T1 or D/41ESC, a PEB terminator should still be installed in the RES position on the card.

Interrupt termination

Interrupt terminator JP7 must only be installed on the D/121B or D/81A card furthest from the CPU.

In a high density configuration, interrupt terminator JP7 should be installed on the voice recognition card furthest from the CPU.

Handling multiple LSI cards

If more than one LSI/120 or LSI/80 interface card is installed on the same PEB cable, only the first card (time slots 00-11 for LSI/120 or 00-07 for LSI/80) should be clock master at the end of the PEB. On that card SW1-3 must be OFF. All other LSI/120 or LSI/80 cards on the same PEB must have SW1-3 in the ON position.

Handling the 60-port E1 card

Two PEBs must be used with the 60 port E1 card. Both PEBs attach to the E1 card, and extend to the left and right side of the card. A D/320SC voice processing card should be connected on the end of each PEB. Option cards are placed between the E1 card and each D/320SC card. See Figure C-5.

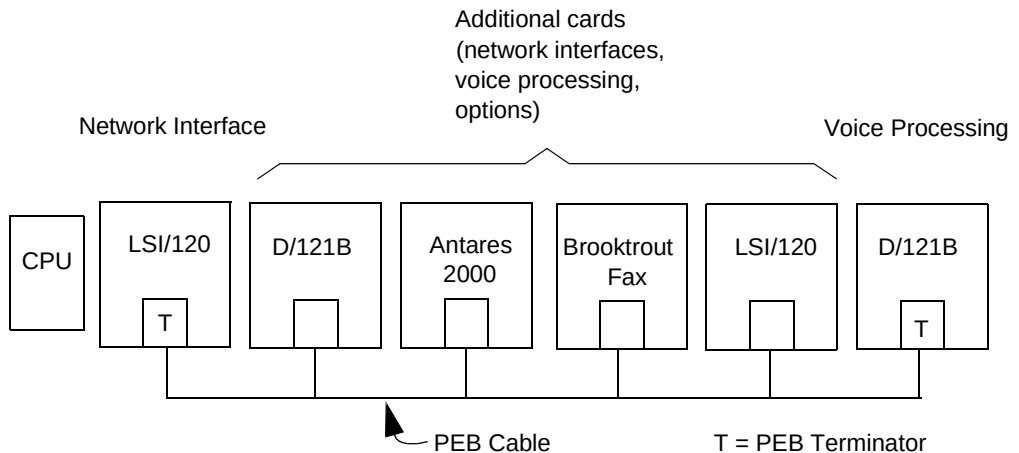
PEB connectivity examples

The figures that are included in this section show the boards that must be terminated on the PEB. Terminators are identified as “T” for an external terminator that must be plugged into a socket on the card, and “t” for an internal terminator that is built into the card. The only cards that have an internal terminator are the 30- and 60-port Aculab E1 cards. As a result, they do not require external PEB terminators to be installed. The internal terminator is installed by the card manufacturer, and cannot be removed.

Position of option cards

The PEB can support up to two 12-channel loopstart network interface cards. The option cards (e.g. fax, voice recognition) whose resources are available to all channels on the PEB should be installed between the end cards, as shown in the figure below. The order of the option cards is not important.

Figure C-2: Multiple cards on a PEB



Additional PEB connectivity examples

The following figures graphically illustrate PEB cabling rules.

Figure C-3: Cabling when using the D/240SC-T1 (terminate in res position) card

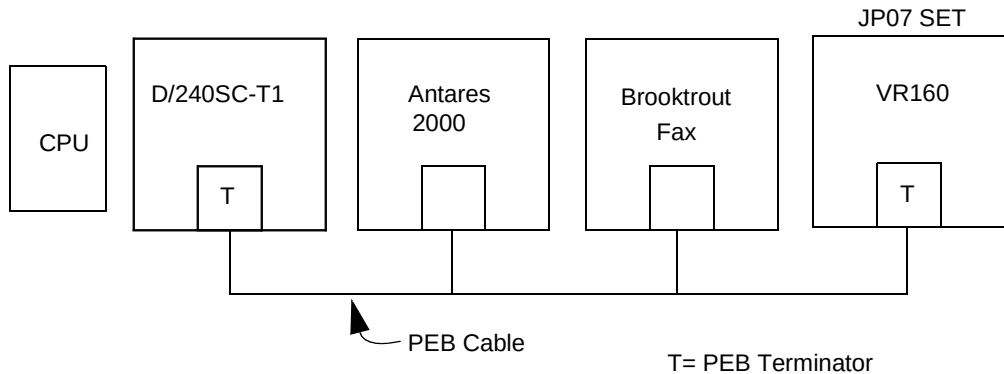


Figure C-4: Cabling when using the 30-port E1 card

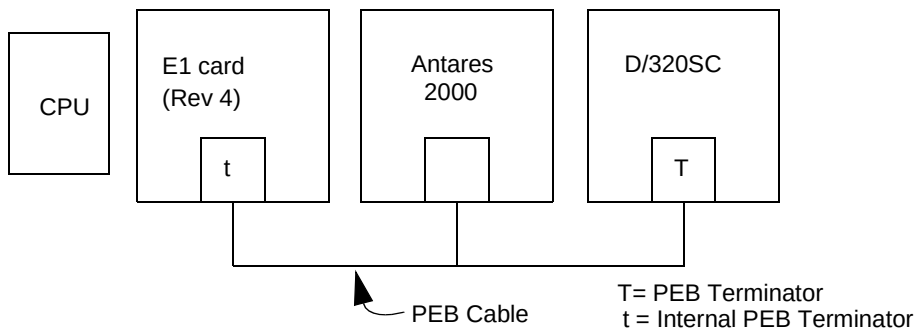


Figure C-5: Cabling when using a 60-port E1 card

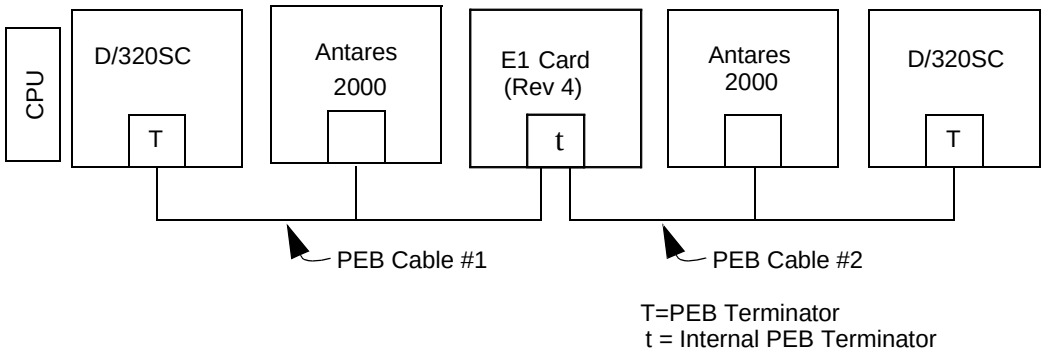


Figure C-6: Cabling when using a single loopstart card

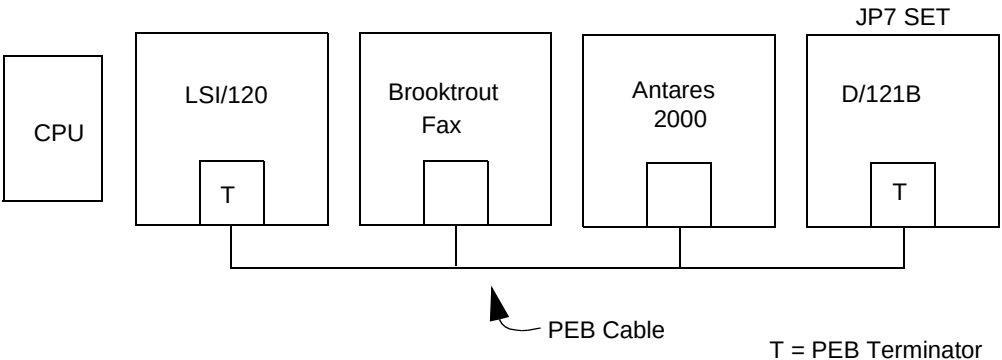
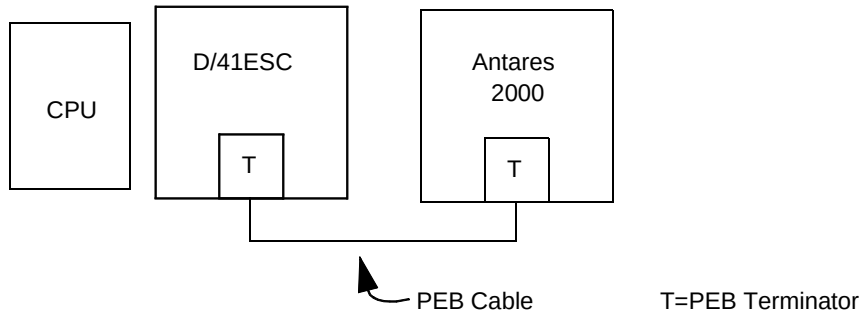


Figure C-7: Cabling when using a single D/41ESC (terminate in RES position) card



SCbus connectivity rules

The SC (Serial Computing) Bus is a serial time division multiplexed bus for carrying information between hardware devices in a signal processing mode. The SCbus can support up to 1024 bidirectional timeslots in a PC implementation, or up to 2048 timeslots in a backplane implementation. The SCbus uses 16 synchronous data lines for carrying data, and a dedicated message channel for carrying signalling information and messages between devices.

Basic SCbus rules

The following are SCbus connectivity rules:

- Termination is not used on SCbus cards.
- The SCbus cable is identical to the PEB cable.
- Only one SC Cable must be used with the 60 port E1 card. The SC cable attaches to the E1 card, and extend to the left and right side of the card. A D/320SC voice processing card should be connected on the end of each SC cable. Option cards are placed between the E1 card and each D/320SC card.

SCbus connectivity examples

The following figures graphically illustrate SCbus cabling rules.

Figure C-8: Cabling when using the D/240SC-T1 card

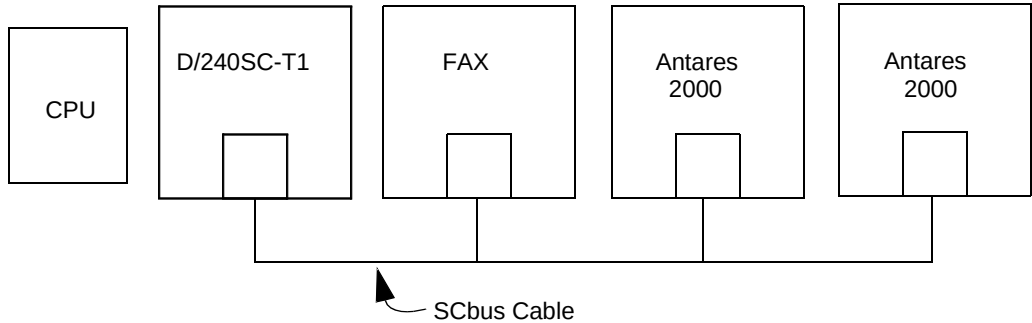


Figure C-9: Cabling when using the 30-port E1 card

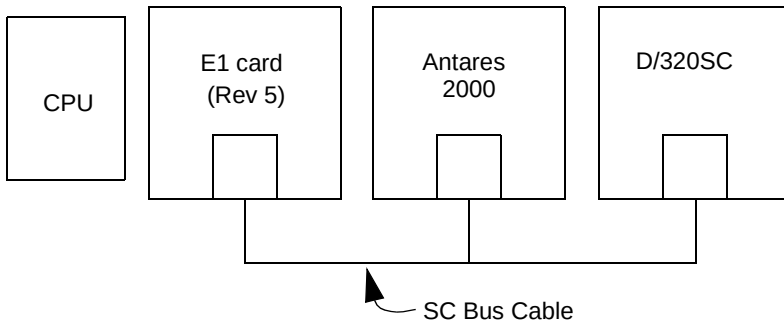


Figure C-10: Cabling when using a 60-port E1 card

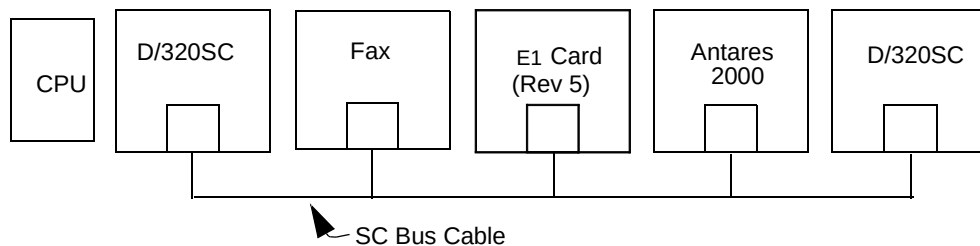


Figure C-11: Cabling when using the D/160 SC card

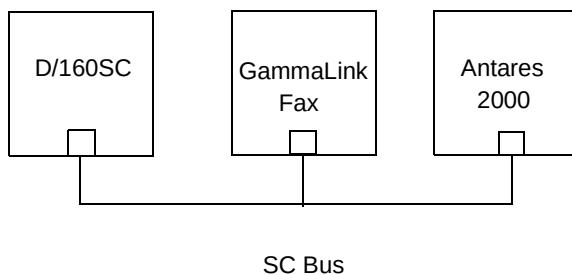
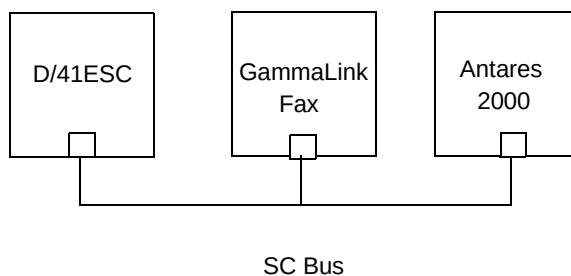


Figure C-12: Cabling when using a single D/41ESC card



Glossary

This glossary provides definitions of many of the terms as used in this guide. Some of these terms may have additional meanings not described here.

μ-law

Also called Mu-law. A form of Pulse Code Modulation (PCM), alternative to A-law. μ-law is used for the B channel of T1 streams, and is the commonly used North American standard.

A-law

A form of Pulse Code Modulation (PCM), in which the code word maps nonlinearly to the signal value. It is the standard compression algorithm used in digital communications systems of the European digital hierarchy. A-law code words are 8 bits wide. A-law is used for the B channel in ISDN.

acoustic coupler

A device (such as the Audio Interface Unit) used to interface between sound equipment and a port on the MRS/AP.

Administration Tools

A set of tools, accessible from the Symposium OPEN IVR Control Panel, used to configure and control the Symposium OPEN IVR system.

ADSI

Analog Display Services Interface. The Bellcore standard defining the protocol used for the flow of information between a piece of telephone equipment (such as a switch, server, or voice mail) and a subscriber's telephone, PC, data terminal, or other device with a screen.

agent

A person whose primary role is to handle customer calls that are transferred from a queue within a call center.

Analog Display Services Interface

See ADSI.

ANI

Automatic Number Identification. A protocol implemented in some trunk cards that records the calling number.

AP

Application Processor. A computer or workstation running the AP software in a distributed configuration. Symposium OPEN IVR combines one or more Multimedia Resource Servers (MRSs) with a general-purpose Application Processor (AP) to provide a versatile application development and run-time environment. The AP provides the environment for developing, managing, and controlling the IVR applications.

AP software

Nortel's premiere voice application development and management software package that runs on the Application Processor (AP). Application development capabilities are a licensed feature of AP software, through IVR Developer software.

Application Programming Interface. Software libraries that provide a standard access to services provided by a software package.

application

- 1 In Symposium OPEN IVR, a customized program that controls activity on one or more telephone trunks connected to an MRS voice system.
- 2 On a host computer, any type of program that carries out a task.

application developer

A person who creates Symposium OPEN IVR applications.

Application Editor

A utility used to graphically create or edit interactive voice response applications.

application processor

See AP.

applicationid

A required hidden field defined in the static Web page that points to the OPEN IVR application to be executed. The name of the IVR application matches the name loaded by the Application Manager on the application server. Do not include the .vpf extension.

Automatic Number Identification

See ANI.

branch

A pathway from one cell in an application to the next cell.

buffers

A part of computer memory used to store information from one cell and pass it to another cell.

call flow

A diagram of a Symposium OPEN IVR application.

caller

A person whose phone call is received or originated by a Symposium OPEN IVR application.

cell

The basic element of an application. Each cell causes some action to be performed—for example, playing a prompt to a caller. Each cell has a set of branches to other cells. After the cell performs its action, it determines which branch the application should follow to the next cell.

channel

- 1 A telephone trunk within a cluster of MRSs.
- 2 A path of communication between the AP and a communications or transmission facility. Channel sequences can span multiple MRSs, and their numbering starts at zero (0). Also referred to as a **port**.

CO

Central Office.

DID

Direct inward dialing. A protocol used by some telephone equipment that allows callers to dial directly to an extension within a telephone system without going through a switchboard.

Direct inward dialing

See DID.

DTMF

Dual Tone Multi-Frequency. Touchtone (push button) dialing. DTMF is used to encode digits over analog telephone lines. Applications can collect information from callers by having them press telephone keys to create DTMF tones. The ASR option can accept both voice and DTMF input.

field

The specific location of information (data) within a record in a relational database.

GDAT

Play Prompts and Get Data. A cell that allows you to play one or more prompts and collect up to 16 digits of input from the caller.

hook-flash

Depressing and releasing the plunger or handset-cradle on a telephone.

host computer

A networked computer that provides applications and services to other networked computers. The VT100 Gateway product sends information to and receives information from the host computer via the TRS.

IRQ

Interrupt Requests (also called hardware interrupts). They are a way that a device signals the data bus and the CPU that it needs attention.

Iterator macro

A macro provided by the OPEN IVR CGI script that allows a template page to access the value of an iterator during expansion.

IVR

Interactive Voice Response.

IVR Developer

A licensed component of AP software that provides application development tools to graphically create or edit interactive voice response applications.

license file

A file which reflects the various product licenses purchased for your system. Whenever you modify any of the options available on an MRS with Symposium OPEN IVR MRS software 4.0 or greater, you need to load a new license file.

MRS

Multimedia Resource Server. Symposium OPEN IVR combines one or more Multimedia Resource Servers (MRSs) with a general-purpose Application Processor (AP) to provide a versatile application development and/or run-time environment. The MRS provides the telephony, information processing (voice, fax, speech recognition, and text-to-speech) environment.

MRS/AP

A single unit that runs a “folded” configuration; that is, a configuration that includes both the Multimedia Resource Server and the Application Processor. The MRS/AP contains the functionality of the other platforms, but in a single hardware unit.

MRS/Rack

A unit comprising a rack-mountable Application Processor (AP) and a rack-mountable Multimedia Resource Server (MRS). Multiple MRS/Racks can be installed in cabinets and stacked to take up less room.

MRS/Tower

The MRS/Tower platform is comprised of an Application Processor and a Tower Multimedia Resource Server.

Multimedia Resource Server

See MRS.

mu-law

Also called μ -law. A form of Pulse Code Modulation (PCM), alternative to A-law. Mu-law is used for the B channel of T1 streams, and is the commonly used North American standard.

node

A grouping composed of an AP (running Symposium OPEN IVR) connected to one or more MRSs.

PCM

Pulse Code Modulation. A method that uses a sequence of discrete integers as code words to describe a time-varying signal. Each integer code word describes the signal level at a point in time.

PEB

PCM expansion bus. A digital voice bus for sending voice across different voice processing cards and components in the same PC. It is an open platform.

prompt

A voice recording that helps lead a caller through a Symposium OPEN IVR application.

Prompt Management tools

A set of tools, accessed from the Symposium OPEN IVR Control Panel, that is used to record, load, and update prompts.

record

- 1 To store sound on tape or disk for later play back.
- 2 In a database, a group of related data items (fields) treated as one item.

Reports tools

A set of tools, accessed from the Symposium OPEN IVR Control Panel, that is used to generate reports about the system's activities.

SCbus

Signal Computing bus—the standard bus for communication within an SCSA node. It is a serial time division multiplexed bus for carrying information between hardware devices in a signal processing mode. SCbus features a hybrid bus architecture consisting of a serial message bus for control and signalling, and a 16-wire TDM data bus.

session

- 1 A connection to a host computer as defined in the `trs.conf` and `vt100.ctl` files, representing a terminal connection.
- 2 A connection between two systems for the exchange of user data. Sessions are between logical units (LUs).

subscriber

A person serviced by a voice processing application (such as voice mail).

system administrator

A person responsible for configuring MRSs, installing and running Symposium OPEN IVR applications, managing prompts, and running reports.

template expansion

A procedure that is performed by the OPEN IVR CGI script based on a specified template page. Expansion is relative to the current Input and Output dictionaries. Expansion evaluates the contents of the template page to generate a dynamic Web page.

Text-to-speech

Text-to-speech (TTS) is the process of converting text—usually in the form of ASCII files—to speech output. It is used in applications where it is inconvenient or impossible to record a human speaker.

TIFF

Tagged Image File Format. TIFF provides a way of storing and exchanging digital image data. Originally developed by Microsoft Corp., Aldus Corp., and major scanner vendors to help link scanned images with popular desktop publishing applications, it is now used in many different of software applications, ranging from medical imagery to fax modem data transfers. (It does not mean “Took It From a Fotograph”.)

voice storage number

See VSN.

VSN

Voice storage number. Internal numbering system used by the MRS for prompts, messages, and faxes (if the fax option is installed); Symposium

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Reader Response Form

Symposium OPEN IVR Release 4.0
Text-to-Speech Option Guide
NTVE8213/A0732112

Tell us about yourself:

Name: _____

Company: _____

Address: _____

Occupation: _____ Phone: _____

1. What is your level of experience with this product?

☐ New User ☐ Intermediate ☐ Experienced ☐ Programmer

2. How do you use this book?

☐ Learning ☐ Procedural ☐ Reference ☐ Problem solving

3. Did this book meet your needs?

☐ Yes ☐ No

If you answered No to this question, please answer the following questions.

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5. What information (if any) was missing from this book?

6. How could we improve this book?

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Reader Response Form

Symposium OPEN IVR

Text-to-Speech Option

Toronto Information Products
Nortel
522 University Avenue, 14th Floor
Toronto, Ontario, Canada
M5G 1W7

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